

G of the bracing-frame are connected to each other, and to the supporting-sections C, in a manner to allow them to lengthen or shorten to conform to the elliptical shape of the wheel. This is done by slots *f* in one or both ends of each link. In approaching the horizontal portions of the wheel these links G must lengthen to agree with the increased length of the straight or flat portions of the wheel, and as they turn at the rounded ends of the wheel they must shorten to pass through the bends of the wheel, and in this way lengthening simultaneously on its two flat sides and shortening simultaneously in passing its two rounded sides. These bracing-links G also serve to hold the supporting-sections C in position with the rollers, as they pass the rounded sides, by the angular positions of the links, which brings them on both sides of the rollers, as shown in Fig. 1. The platform or bed-support D consists of a series of sills, D, arranged across the supporting-sections C, and united together by links *g*, or other means, so as to hold the sills D a proper distance apart and form an outer revolving bed or track. These sill pieces D are notched at *h*, as shown in Fig. 4, (or otherwise provided with suitable devices,) within which the supporting-sections C fit to hold the traveling-bed D properly in place, and allow the sections to yield at either end without separating them from the sections C, whereby they may easily pass over obstructions and conform to the unevenness of the ground without throwing any of the parts out of position. I have stated that the motion of the rollers B around the fixed frame A is very slow. This is produced by the bearings *b* of the rollers B against the hub-frame A, being of less diameter than the bearing-portion of the rollers upon the supporting-sections C, while the latter have a rapid motion to carry the hub-frame A along with the vehicle. This slow motion of the rollers is of great advantage in preventing wear and tear of the parts, and lessens the friction. The outer platform D revolves with the supporting-sections C, and

always maintains its proper position therewith, and has a slight independent movement, by reason of its connection with the supporting-sections not being fixed, and forming a traction-bearing for the wheel.

If desired, the outer or bed platform of sills and traveling sectional and roller-tracks may be driven by suitable gearing, the cogs of which will interlock with the said sills, and thus drive the traction-wheel and adapt it for use with steam-power.

Having described my invention, I claim—

1. The combination, in an elliptical traction-wheel, of a traveling sectional supporting-track, C, connected by knuckle-joints, for the rollers B, with a bracing-frame of links G forming a part of said sectional support C, and traveling with the same to render rigid and straight the supporting-sections C for the rollers B, essentially as described.

2. In an elliptical traction-wheel, adapted to be supported by a single axle-tree, the traveling bracing-frame of links G, having a capacity to lengthen and shorten to conform to the flat and rounded sides of the elliptical wheel, essentially as described.

3. In a single elliptical traction-wheel, adapted to be supported by a single axle-tree in a fixed hub, A, and having both sectional and roller-traveling supporting-tracks C B, the combination therewith of an encircling traveling-track, D, arranged and operating jointly with the elliptical wheel, essentially as described.

4. In an elliptical traction-wheel, having an outer traveling-track, D, the sills or bed-sections thereof interlocked with the sectional traveling-supports C, to be independent thereof, and to be free to rise and fall vertically to conform to the ground, substantially as described.

In testimony whereof I have hereunto set my hand this 2d day of May, A. D. 1873.

HENRY T. STITH.

Witnesses:

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